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# LEARNING BY DOING

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## The role of the Cooperative Extension Service

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Presented by the Federal Extension Service as a part of the  
USDA Graduate School Series

January 25, 1956

MUSIC -

HOUSE LIGHTS - down slowly and out

VOICE - (echo chamber) What a man hears, he may doubt; what he sees,  
(tape) he may possibly doubt; but what he does himself, he cannot doubt.

TYMPANY - INTO FANFARE

CENTER - Curtain parts slightly to reveal a flashing beacon

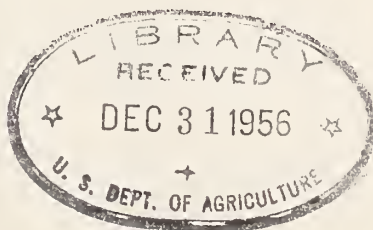
VOICE - The blueprints of agricultural scientists are the beacons to a more  
(tape) prosperous, happy, and stable America.

These scientists are the architects of rural progress.

But someone needs to teach rural people the skills of using these  
blueprints in building sound farm and home management. Someone  
needs to encourage rural people to adjust themselves to their  
physical, economic, and social environment . . . and give them  
know-how.

This calls for a process of learning . . . a process which is  
swift (bell), effective (bell), and in harmony with human psychology  
and the principles of democracy (bell).

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VOICE - It was Dr. Seaman A. Knapp who, at the dawn of the century, founded this dynamic educational instrument - a teaching approach which put science to work alongside the machines of the agricultural revolution.

It was Dr. Knapp who fashioned the right psychological key - the farm demonstration - based on learning by doing - which unlocked the door to the farm family's interest in better practices. Thus the link between research and farmer efficiency was forged - The Federal-State Cooperative Extension Service.

Ladies and gentlemen, Mr. C. M. Ferguson, Administrator of the Federal Extension Service.

SPOTLIGHT ON FERGUSON AT RIGHT AT PODIUM

Beside the podium on a rack is a double-tree.

FERGUSON - Good afternoon and welcome to our show.

(Pause - looks at double-tree)

Know what this is? Any of you dirt farmers recognize it?

It's a double-tree from a horse-drawn farm wagon.

Double-trees were meant to take effort from several sources and apply it to a particular load. To do this, you needed communication. And if you were driving a team of mules in the old days, sometimes this communication got mighty interesting. You made your needs known. The team got together. Their effort was concentrated on the load by the double-tree and the job was done.





FERGUSON - But our team work in the Extension Service is with people -- with you in USDA, the land-grant colleges, and the folks on the land.

Nevertheless, that double-tree tells a good story.

Our job is to focus the resources you develop here and in the States, on farm and home needs, as they are determined by the people themselves and communicated to us.

We have always said: "If it isn't meant to grow, or help things grow, or if it isn't in a home -- we all might as well quit."

Speaking of home, I see it's about noontime by my special clock.

I don't know what you're going to do, but I'm going back to the farm. In case you need reminding, that's a good place to be at noon. We could say the board of directors of the farm enterprise is in executive session.

CURTAIN OPENS on farm family about to sit down to the dinner table.

MOTHER AND SISTER are carrying in dishes of food. (Ad lib to each other, such as: MARY - "It's hot." MOTHER - "What do you expect for July." -- "Did you get the bread?", etc.) (Take a minute or so to do this)

DAD - stands at one side, drying his hands on a towel - listening to radio.

RADIO - County Extension program.

DAD - turns radio off as Extension program closes.

MOTHER - (calls) Jimmy! Jimmy! Where is that boy?

JIMMY - (in back of auditorium) Yes, Ma.



MOTHER - Dinner.

JIMMY - Okey, Ma. Wait for me. (Runs to stage) Wait for me. I'm coming. (He runs up on stage and sits at table and starts to eat.)

MOTHER - Just a minute. Just a minute.

ALL SIT DOWN

DAD - (asks Grace)

THEY START TO EAT

DAD - (to boy) How's that heifer, boy?

JIMMY - She's all right. But I need some linseed meal for her.

DAD - There might be a little left in that number two bin. Some ground oats, too. But not much. I'll try to get a sack of linseed the next time we are in town.

(He notices Mary)

Well, aren't you pretty!

MARY SHOWS OFF NEW DRESS AND MODELS AROUND STAGE

MARY - It's one of my new 4-H dresses. I made four of them, especially for college next Fall.

(Parades some more)

Oh, Dad. Just imagine -- college. I've dreamed of it so long.

I want to go so very much.

DAD - Arrangements for a college education! Feed for a heifer --

(Shakes head)

Nothing like variety, is there?

MOTHER - You're worried, aren't you?



DAD - Nothing definite. But -- well -- I don't like the looks of that pasture.

MOTHER - (thoughtfully) There isn't much left, is there?

DAD - We always seem to have more than we need in May and June.

Then about this time of year it gets hot, the flies come, the pasture dries up - and just about the time the price of milk goes up, our milk production falls off.

MOTHER - We won't have enough hay to feed them now and carry them through the winter. Maybe the neighbors could sell us a little feed to tide us over.

DAD - No, Mother. Feed is too high-priced at this time of year -- even the little bit for Jimmy's heifer.

MARY - Isn't there something we can do about it -- the pasture, I mean?

DAD - I'm sure there is. But we didn't have any drouth until last year and we just haven't run any pasture tests to speak of in this end of the county.

If the pasture was right, we could keep costs down and could afford some of the other things we want -- like some new equipment for you, Mother. I happen to know they've been after you to be president of the County Home Demonstration Council but you keep putting them off because you're tied down to this house.

MOTHER - Those things cost money, too.



DAD - (after thinking a while) Y'know what I'm going to do.

I'm going to call Mr. Cassell, the county agent, about this pasture problem and ask him to come out here again. He makes a fellow decide for himself - but he does a whale of a lot to get you thinkin' on the right track. Mother, maybe you'll want to talk to Miss Fehr, the home demonstration agent, too.

STAGE LIGHTS FADE

CURTAIN CLOSES

SPOT ON FERGUSON

FERGUSON - Although our story today is about a farm family, we want to point out that the services of Extension are not limited to the farm. Our interest is urban as well as rural --- the whole community --- the consumer as well as the producer -- and (along with our friends from the Agricultural Marketing Service) the ten million people in the United States who make their living through the transportation, handling, packaging, and marketing of agricultural products.

Getting back to our story, our farm family board of directors seems to agree on one point at least.

They have problems. They also have dreams - ambitions - want to get ahead.

Let's see what happens when the county agent, Mr. Cassell, calls on Dad the next day.

MUSIC - CURTAIN OPENING

CURTAIN OPENS on Dad, Jimmy, and Mr. Cassell at farm fence.

CASSELL - It seems you have more land in pasture during May and June than you need.

DAD - No question about that.





CASSELL - And it's seeded to -----That's bluegrass, isn't it?

DAD - Yes, bluegrass.

CASSELL - See if you don't think part of the trouble is right there. This has happened to several of the fellows in this end of the county. Bluegrass just won't hold up in the heat, so we're looking for good forage for July and August.

DAD - What did the other fellows do?

CASSELL - Well, their problem's about like yours -- about the same acreage and same size herd. We figured it would be good management to put in a little plot, like that corner back there (points) in alta-fescue for winter. Then take a big chunk of that land that is in bluegrass and plant it to alfalfa and brome grass. Alfalfa and brome can take the heat and drouth. I was out at Smith's place yesterday and it seems to be standing the drouth fine, so far.

(Drawing with stick on the ground)

What you have to do is fence off that brome with an electric fence so the cattle can work on the bluegrass in May and June. Then put them on the brome and alfalfa in July and August, a strip at a time -- moving the electric fence just about as much as the cows eat each day.

DAD - Sounds all right.

JIMMY - My heifer could be out there, too, couldn't she?

CASSELL - With soil testing and proper fertilizers, you can raise the same amount of pasture on half the acreage.



CASSELL - Use the bluegrass when it is lush and save the other for late summer and winter.

What do you think of it?

DAD - (after pause) It's worth trying. But we'll have to run on our nerve with Mary in college this year.

CASSELL - We'll keep working on this pasture. It can be improved.

(They shake hands)

Have to get along. Couple of calls to make before the meeting tonight -- the one I mentioned on the radio about farm and home development.

Come if you can.

This specialist from the college who is going to be there is a good one.

CURTAIN CLOSES

SPOT ON FERGUSON

FERGUSON - Farm families don't work and plan in a vacuum. Farm visits like the one we have just watched are a part of an intensive method to assist families to make their own decisions. The same is true of office calls and neighborhood meetings that build up the face-to-face contact between the family and Extension personnel.

The county Extension worker is also a ready cooperator in bringing to bear the facilities of other USDA field agencies upon the farm problem -- facilities such as the Soil Conservation Service, Farmers Home Administration, Farm Credit Administration, and others.



FERGUSON - Supplementing personal contact is a constant flow of information in the form of press reports and columns, radio, television, circular letters, and publications from State and county offices. But speaking of personal contacts, Mother has a visitor back at the farm house.

MUSIC - fill

CURTAIN opens

MOTHER AND MISS FEHR AT TABLE

MOTHER - (as lights come up) That's the way it is, Miss Fehr. There just isn't enough time to do all the housework and help with the County Home Demonstration Council, too. On top of that, I should be doing more on our accounts and records here.

MISS FEHR - All our women have a lot to do. We could all use more help and more up-to-date equipment. But there are limits. (Pause) Have you ever thought much about the way you were doing your work?

MOTHER - I don't quite understand what you mean.

MISS FEHR - How do you plan? How do you organize it?

MOTHER - Oh, I guess I just start and keep going.

MISS FEHR - Until you drop. I know. That may be part of the trouble. This work can be simplified. Would you like to make a check of your job?

MOTHER - Yes, indeed.



MISS FEHR - (to Mary) Mary, will you go out to my car and get the magnetic board that is in the back seat -- it is the one I use at meetings. (Mary goes out)

While we're waiting, let's find out some more about your work. How much space do you have to work in? Is there duplicate equipment upstairs and downstairs? How close is the equipment to the place you use it first each day? (Ad libs other questions)

MARY - What are you going to do with this, Miss Fehr?

MISS FEHR - Mary, I want to show you and your mother what happens when you run all over the kitchen looking for your favorite paring knife.

Seriously, let's start with this magnetic board.

Here is an outline of a kitchen about like yours.

(Draws outline of kitchen on board with chalk)

Now first, where is the stove?

MOTHER - Well, I have two. I use one for heat and the electric range for cooking. That is right here.

(Miss Fehr places magnetic blocks on board for each work point in kitchen)

MISS FEHR - Your refrigerator is over here in the corner, isn't it - and there is a door between?

MOTHER - Yes, the refrigerator sits across the corner.

MISS FEHR - Now, how far away is the sink?

MOTHER - The sink is down on this side near the range.





MISS FEHR - Oh, I remember the range sort of juts out down here and the sink is near it. And you have a washing machine and water heater in that corner, too, don't you?

MOTHER - Uh, huh.

MISS FEHR - You do have some working space and cupboards somewhere?

MOTHER - The only place I can make a pie is on the work space beside the stove or on the table.

MISS FEHR - Then we have a working space in this corner and a table in the center of the kitchen. Right?

MOTHER - That's right.

MISS FEHR - I think I remember a little cupboard down by the range.

MOTHER - I keep some of my pans in that cupboard and some things under the sink. Most of my spices and seasonings are in this corner cupboard by the electric range.

MISS FEHR - Well, there we have the kitchen. Since you've mentioned pies, I take it you make them fairly often. Let's make an apple pie today. If you'll tell me how you go about it, I'll follow your moves with this string and we'll just see how many steps you have to take. What do you do first?

MOTHER - I always make the pie over here. I need a bowl that's in the cupboard. The flour is under the sink. And the shortening is in the pantry.

MISS FEHR - O.K. Let's start.

(Miss Fehr follows action by placing heavy string from block to block as Mother describes her kitchen routine in baking a pie)  
We leave your working area and go to the sink for the flour, to the cupboard for the bowl, and across to the pantry for the shortening.



MOTHER - And to the refrigerator for the ice water.

MISS FEHR - Even with a tray, I think you have about enough, don't you?

So suppose we take it back to the work surface now.

MOTHER - We also need salt which is right here. Oh, yes, we have to have the rolling pin from under the sink and the pie pan which is in the cupboard. We can bring the pastry cloth while we are there, too.

MISS FEHR - That means we have to make another trip to the other end of the kitchen.

MOTHER - I also need the scissors to cut the piecrust but that's right here in the drawer.

MISS FEHR - Is that everything?

MOTHER - We've forgotten the apples. We'll have to go to the pantry for the apples but sugar and cinnamon are right here.

MISS FEHR - O.K. Another trip to the pantry. Here we go.

MOTHER - We'll bring those back to the sink and prepare them there.

MISS FEHR - Then we can take them to our working area and finish the pie. And of course the stove is near, where we are ready to bake the pie.

It seems to me that's quite a lot of walking for making just one dish. Your kitchen offers possibilities for a more convenient arrangement.

I believe you told me this door could be closed. Then we could make a U-shaped kitchen, which has been proven to be the most convenient.

(Draws outline of U-shaped kitchen on board and places magnetic blocks to represent each work point in new arrangement)



MISS FEHR - Suppose we put the sink where the stove is, move the refrigerator down this wall so we can get cupboards and working space between, and put the stove over here where the sink now is, again with cupboards between. What do you think of that?

MOTHER - With a cellar underneath, the plumbing and electric work wouldn't be too much of a problem.

MISS FEHR - Well, let's just see if we can show you what it would save in time and energy, which is what you are looking for.

(Once again, Miss Fehr follows the routine of baking a pie with string to blocks representing kitchen equipment, etc.)

In this kitchen your baking center would be right here by your stove. Here you would find flour, spices, shortening, bowls, pans, scissors, and rolling pin. All you would need to do would be to go to the sink where the apples are stored, prepare the apples, go to the refrigerator for ice water, come back to the stove, finish your pie, and put it in the oven.

Now, Mary, let's compare the length of the two pieces of string.

(Mary holds ends and moves back with them from Miss Fehr.)

MISS FEHR - See, it's only one of a hundred jobs you do around the house every day. Let's simplify the job -- and get better equipment as soon as we can.

CURTAIN

MUSIC FILL

SPOT ON FERGUSON





FERGUSON - And so the county Extension worker, with subject matter and administrative direction of the land-grant college and the research findings of the State Experiment Stations and USDA, helps farm and urban families.

To the county agent, the college is home base.

And from time to time, the farm family, itself, gets first-hand information on new developments in agriculture and home economics by attending field days at these schools.

MUSIC - Penn State Glee Club - "In the Vale of Old Mount Nittany"

CURTAIN opens on projection screen after first verse

GLEE CLUB continues as

SLIDE NO. 1 - Penn State University from air

SLIDE NO. 2 - Campus view

SLIDE NO. 3 - Campus view

GLEE CLUB - down and out at close of song

SLIDE NO. 4 - Campus view

VOICE - This is the campus. Mother, Dad, and the youngsters arrived a few (tape) minutes ago.

TAPED COMMENTARY CONTINUES AS EACH SLIDE IS PROJECTED

SLIDE NO. 5 - People arriving for field day.

SLIDE NO. 6 - Of course, the first thing Dad and Jimmy wanted to do was to attend the dairy demonstration.

SLIDE NO. 7 - They took a close look at the dairy herd, too.

SLIDE NO. 8 - Next to milk cows, Dad's interest (remember his conversation with Mr. Cassell, the county agent) was in grassland and pasture. So a tour of the grass research areas was next.





SLIDE NO. 9 - First, Dad, Jimmy, and the group of interested farmers visited the famous grass and forage test plots.

SLIDE NO. 10- Here the farmers get the results of grassland tests and research by personal observation.

SLIDE NO. 11- Adapted to State conditions, here are rotations, fertilizer tests - all recorded, marked, and explained by scientists - a "see for yourself" day of help and suggestions for farmers.

SLIDE NO. 12- And there was the demonstration of farm equipment, too.

SLIDE NO. 13- Have some silage? Or should we say "a dairy cow's sauerkraut?"

SLIDE NO. 14- Dad and Jimmy saw some heavy equipment, too - like this bulldozer.

SLIDE NO. 15- Still more farm equipment in action - a tribute to the agricultural engineers.

SLIDE NO. 16- And more machines.

SLIDE NO. 17- With last summer's drouth still in his mind, Dad looked with keen interest on this demonstration of an irrigation system.

SLIDE NO. 18- Vital information, and thought provoking, to the extent that Jimmy and Dad were the last to get on the bus that returned them to the main campus.

SLIDE NO. 19- While Dad and Jimmy were studying dairying, grassland management, and irrigation, Mother and Mary were learning some things of their own.

SLIDE NO. 20- They started with a tour of the campus.

SLIDE NO. 21- After they, like the men, had registered at headquarters.

SLIDE NO. 22- They started out with visualized talks like this.



SLIDE NO. 23- In fact, it had all the earmarks of a college class.

SLIDE NO. 24- The women folk soon were deep in the finds of research in home economics. Here they watched the testings of textiles.

SLIDE NO. 25- A sewing demonstration was next.

SLIDE NO. 26- And there were more laboratory tests and more equipment.

SLIDE NO. 27- They spent some time in the section devoted to nutrition.

SLIDE NO. 28- Still more first-hand inspection of laboratory tests.

SLIDE NO. 29- One point that interested Mother was the talks and demonstrations on work simplification. Miss Fehr, the home demonstration agent, had asked her to watch especially for this one.

SLIDE NO. 30- Some of the mothers toured the nursery.

SLIDE NO. 31- And Mother remembered her talk with Dad when they were shown the new developments in home equipment. It would lighten the load. She could do the other things.

SLIDE NO. 32- Before they left, they all visited the flower gardens aimed at home beautification for the whole State.

CURTAIN CLOSES - BAND MUSIC

SPOT ON FERGUSON

FERGUSON - As problems, methods, and solutions become of interest and concern to more people, they move to this point of State-wide attention and effort at the land-grant college. In like manner, as problems reach more than State proportions, they become the concern and interest of the Nation as a whole.

JIMMY - (while tossing football in air, walks across stage in front of curtain to Ferguson)

FERGUSON - Hi, Jimmy. Why the football?



JIMMY - Just been to the University for a field day.

(Shoves ball into Ferguson's stomach)

FERGUSON - Woof.

JIMMY - Whose team are you on, Mr. Ferguson?

FERGUSON - Jimmy, I am playing on the USDA-Land-Grant College team.

They are a great outfit.

JIMMY - What do they do?

FERGUSON - In many ways the USDA reminds me of a country store - like the one out in Middletown Valley. Let me show you what I mean.

(He takes Jimmy by the arm and leads him to center stage)

CURTAIN OPENS on country store scene.

(Store set will contain cues for Ferguson's ad lib re-work of FES.

A section of store shelves are labeled Agricultural Research features. Bacon from bacon type hogs, midget watermelon, Beltsville turkey and chicken, fireproof cotton, new insecticides, new plants, picture of a Red Sindhi, or new farm machinery, and a new magazine featuring the Frank Teuton girls.

A large poster will announce SCS Farm Pond Specials including water for livestock, etc.

A section on REA electrical equipment - an old lantern, light bulbs.

A large box marked 'Figures from O. V. Wells, AMS.' It will contain many cut-out numerals and one cut-out of a girl.

Several sacks of lime marked 'K.'

Sign - "We trust you" - Farmers Home Administration.

Coffee and other imports - Foreign Agricultural Service.

Smokey Bear mask from Forest Service - some cloth used in making mask - Forest Service





Packages of acreage allotments - Commodity Stabilization Service.

Cash register on counter - has boxes marked 'Plan of Work' - 'Annual Report' - 'Project Agreements')

FERGUSON - The stock in trade of the Federal Extension Service is a great variety of services - research - information - and programs that come from the USDA and the colleges.

Let's see what's on sale. (Picks up handbill)

(AMS) Oh, Jimmy, here is an item - 'Figures by Wells' - You know Oris Wells in AMS - Here, Jimmy, hold these. (Pulls figures out of basket) Oh! Oh! Look here - figures - Here is the outlook for 1956 - not bad at all.

(ARS) Jimmy, here on this shelf is where we keep our new products and gadgets. You know - those new fly killers, midget watermelons - lean bacon - lawn grass that you don't have to cut - Beltsville turkeys - double breasted broilers. Lots of new things - shelf is practically empty. Folks buy up those new things quick. Must speak to our buyer, Mr. Shaw, about those empty shelves.

(SCS) In our warehouse we have a whole lot of SCS fish ponds for sale. One in your new pasture and you wouldn't have to pump so much water for your heifer. Like to fish, Jimmy?

(ACP) You and your Dad may need some of this new lime on those new alfalfa seedings. You see, that's special lime, Jimmy - only had it about two weeks. See that 'K' on it? That 'K' stands for Koger. That's the brand name it goes under now.





FERGUSON - Do you have any lanterns? We used to sell lots of them -

(REA) good lanterns, called Anchor Brand. No market for them anymore - folks all want these light bulbs. Guess we'll have to close out that stock of lanterns.

(CSS) Jimmy, this acreage allotment corner is what we call our Spice Shelf. When things get dull, our customers can always find something new here that will liven 'em up. Need a good cough or sneeze, Jimmy? I can find it for you on our Spice Shelf.

(FAS) Reckon you don't drink coffee, Jimmy, but lots of us do. Coffee and cocoa come from abroad, you know. Quite a job to buy coffee without paying too much. Got a special coffee buyer - man named Garnett. He trades some of our surplus corn and wheat for coffee. Sometimes he makes a good bargain and sometimes those foreigners steal his shirt. Well, guess each side has to win occasionally.

(FHA) Some stores sell only for cash, Jimmy. But we still give some people credit. Makes friends, you know, and increases sales. Jimmy, do you suppose I could get rid of those old Anchor Brand lanterns on credit? Wonder if McLeaish would buy them on time?

(CCC) Inventory book. They tell me this is quite a worry. They have some eight billion dollars worth of stuff they can't get rid of - I have a feeling that if they would learn Morse Code they might be able to figure it out but I'll admit it's got me buffaloed.

(Crop Ins.) We help these folks get their crop insurance on the market whenever it's for sale.



FERGUSON - Oh! Here, Jimmy, is a very, very important outfit. It's got  
(B & F) to do with Budget and Funds. Our folks all know about  
'Joe Wheeler, Inc.' - this is our 'Wall Street.' Over in  
Extension we have a 'gimme' partner - Schruben, Inc. You see,  
the States send in such things as Plans of Work - Annual Reports -  
Project Agreements. It's a little like bringing eggs into the  
country store but here our budget office looks 'em over - if  
they are good, they trade them for money to do Extension work -  
help pay for such nice folks as Mr. Cassell and Miss Fehr.

(FS) Now, Jimmy, here is one of our best sellers - it's McCardle cloth.  
Out of it the Forest Service folks make suits so Smokey won't be  
bare - but - here, let's try a Smokey Bear mask on for size.  
You sure look like old Smokey himself - Wanta wear it to your  
next L-H meeting and give the club a little "fire talk?"

(to Jimmy, as curtain closes)

Well, Jimmy, that's about our story.

JIMMY - Thanks, Mr. Ferguson. Gotta hurry back to my heifer. G'bye.

FERGUSON walks to podium as

CURTAIN closes

MUSIC fill

SPOT ON FERGUSON

FERGUSON - Our Extension story, then, is a story of people; people with  
pastures, kitchens, and cattle that mean much to them. People  
with families and communities that mean more - much more.  
It is an account of nationwide cooperation with which you are  
familiar and in which you play a major role.



FERGUSON - The products of our country store come largely from your laboratories and offices.

We work with families - farm families and city families. In working with them, it is important that we work as a family with you, with the States, and with our friends in business and industry.

Things don't always run smoothly, of course. Sometimes there are tragedies. But working together, the big step is always forward. We all "learn by doing."

CURTAIN  
OPENS

Ah, here we are back again with our Maryland farm family.

(Mother is writing at table. Dad is painting sign "John Doe Farm.")

Incidentally, I understand that Mother has been elected president of the Home Demonstration Council.

Dad wants to let folks know who owns the place.

And someone's getting home from college.

(Mary rushes on stage. Drops suitcase, hugs Mother, and turns to Dad as ----

JIMMY - (starts calling from back of auditorium)

Dad! Dad! Dad! Hey! (Runs to stage)

(Dad, Mother and Mary take a few steps toward stage steps, left)

MUSIC - "God Bless America"  
SNEAK IN

JIMMY - (as he comes on stage)

Dad, my 4-H heifer, she's had her calf!

(Jimmy, Dad, Mary, and Mother return to center, arm-in-arm.

Jimmy reaches over and prints "& Son" on sign while family watches)

CURTAINS CLOSE AND MUSIC UP TO FULL











